CSS Integration Framework Implementation Plan

Indiana Department of Transportation

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Prepared By:

The Schneider Corporation

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Chapter 1: Introduction

1.1 Implementation Plan Purpose

The purpose of this Implementation Plan for the Indiana Department of Transportation (INDOT) CSS Integration Framework is to serve as a "living" guide or strategic plan for the on-going development of CSS integration activities. This document is meant to serve as a blueprint defining goals and objectives and to outline the approach, critical action items and provide target implementation timeframes associated with integrating CSS principles into INDOT's way of conducting business.

1.2 Background

INDOT recognizes that transportation improvement projects not only provide mobility for its customers, but also have in impact on the environment and communities in which they are located. Working with community stakeholders provides an opportunity to preserve and enhance the human and natural environment. To best address the challenges of transportation improvement projects, INDOT, along with other state departments of transportation are interested in implementing a context sensitive solutions approach for planning, project development, and design. In addition, recent legislation at the nation level encourages state departments of transportation to implement CSS.

Historically, CSS principals and philosophies began more than three decades ago, and have evolved from a series of milestones. Today we understand the importance of transportation facilities to the quality of our everyday life. By accurately defining the context in which they are developed, the transportation solution can be an asset to the customers and the community in which they exist.

1969 - The National Environmental Policy Act was passed in 1969 requiring transportation agencies to consider transportation project impacts on the environment.

1997 – Federal Highway Administration (FHWA) implemented pilot projects for CSS, using CSS techniques on transportation improvement projects in Kentucky, Utah, Minnesota, Maryland, and Connecticut.

1998 – American Association of State Highway and Transportation Officials (AASHTO) and FHWA co-sponsored a national workshop called "Thinking Beyond the Pavement." This workshop's purpose was to integrate highway development that recognized community values and the environment while maintaining safety and performance.

2003 – INDOT's Commissioner formally adopted a Policy for Context Sensitive Solutions. INDOT established an internal committee which met monthly with the anticipation of having a consultant on board to support and facilitate the efforts.

2004 – INDOT selected The Schneider Corporation as their CSS consultant. INDOT's committee and the consultant continued to meet monthly through December of 2005.

2004 - FHWA and partners launched the CSS website www.contextsensitivesolutions.org.

2005 - The transportation bill SAFETEA-LU, included language promoting the consideration of CSS core principles and the use of visualization techniques in transportation projects.

2006 – INDOT gives Notice to Proceed to

the Schneider Corporation to serve as their CSS consultant.

Present - FHWA efforts continue to advance CSS implementation nationwide. Currently, 26 states have or are in the process of adopting a CSS policy. FHWA has set a target of incorporating CSS in all 50 states by 2007.

Present – INDOT formally embarks upon integrating CSS into their system of project delivery with the development of this Implementation Plan.

FHWA CSS Definition

Context Sensitive Solutions (CSS) is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist. CSS principles include the employment of early, continuous and meaningful involvement of the public and all stakeholders throughout the project development process.

Core Principles of CSS

CSS practitioners have identified the following core principles about CSS product and process that can be applied to both project implementation and evaluation.

Qualities of Excellence in Transportation Design

- The project satisfies the purpose and needs as agreed to by a full range of stakeholders. This agreement is forged in the earliest phase of the project and amended as warranted as the project develops.
- The project is a safe facility for both the user and the community.
- The project is in harmony with the community, and it preserves environmental, scenic, aesthetic, historic, and natural resource values of the area, i.e., exhibits context sensitive design.
- The project exceeds the expectations of both designers and stakeholders and achieves a level of excellence in people's minds.
- The project involves efficient and effective use of the resources (time, budget, community) of all involved parties.
- The project is designed and built with minimal disruption to the community.
- The project is seen as having added lasting value to the community.

Source: www.contextsensitivesolutions.org

Characteristics of the Process That Yield Excellence

- Communication with all stakeholders is open, honest, early, and continuous.
- A multidisciplinary team is established early, with disciplines based on the needs of the specific project, and with the inclusion of the public.
- A full range of stakeholders is involved with transportation officials in the scoping phase. The purposes of the project are clearly defined, and consensus on the scope is forged before proceeding.
- The highway development process is tailored to meet the circumstances. This process should examine multiple alternatives that will result in a consensus of approach methods.
- A commitment to the process from top agency officials and local leaders is secured.
- The public involvement process, which includes informal meetings, is tailored to the project.
- The landscape, the community, and valued resources are understood before engineering design is started. A full range of tools for communication about project alternatives is used (e.g., visualization).

Source: www.contextsensitivesolutions.org

INDOT Policy for Context Sensitive Solutions

"It is the policy of the Indiana Department of Transportation (INDOT) to incorporate context sensitive solutions into the development, construction and maintenance process for improvements to the state jurisdictional transportation system. The process for incorporating context sensitive solutions is intended to establish a basis for the development, construction and maintenance process to incorporate a community's character and desires in transportation improvements. The context sensitive solution process is intended to be a flexible approach in allowing the latitude to enhance environmental, scenic, historic and unique community elements in a transportation improvement. INDOT believes that the implementation of context sensitive solutions will allow transportation officials with input from community stakeholders to strike a balance between providing safe, cost effective and efficient highway facilities while protecting and enhancing community values.

The establishment of context sensitive solutions incorporates accepted effective design practices. Context sensitive solutions allow ideas such as the preservation of historic places, scenic and natural environmental enhancement, and community values to be considered within the objectives of mobility, safety and economics."

Mr. J. Bryan Nicol, Commissioner
Indiana Department of Transportation
Adopted: 3/3/03

INDOT CSS Definition

The following is the CSS Definition as drafted by the members of Steering Committee:

INDOT CSS Definition

CSS is a way of doing business, a philosophy that will be inherent to all projects considering the total context in which that transportation project will exist. CSS provides an economical balance of multimodal transportation needs, cultural and natural resources, community needs and safety; it requires flexibility in design standards, incorporating aesthetics into basic design principals.

INDOT Mission Statement

The following is the INDOT's Mission Statement:

"INDOT will plan, build, maintain, and operate a superior transportation system enhancing safety, mobility and economic growth."

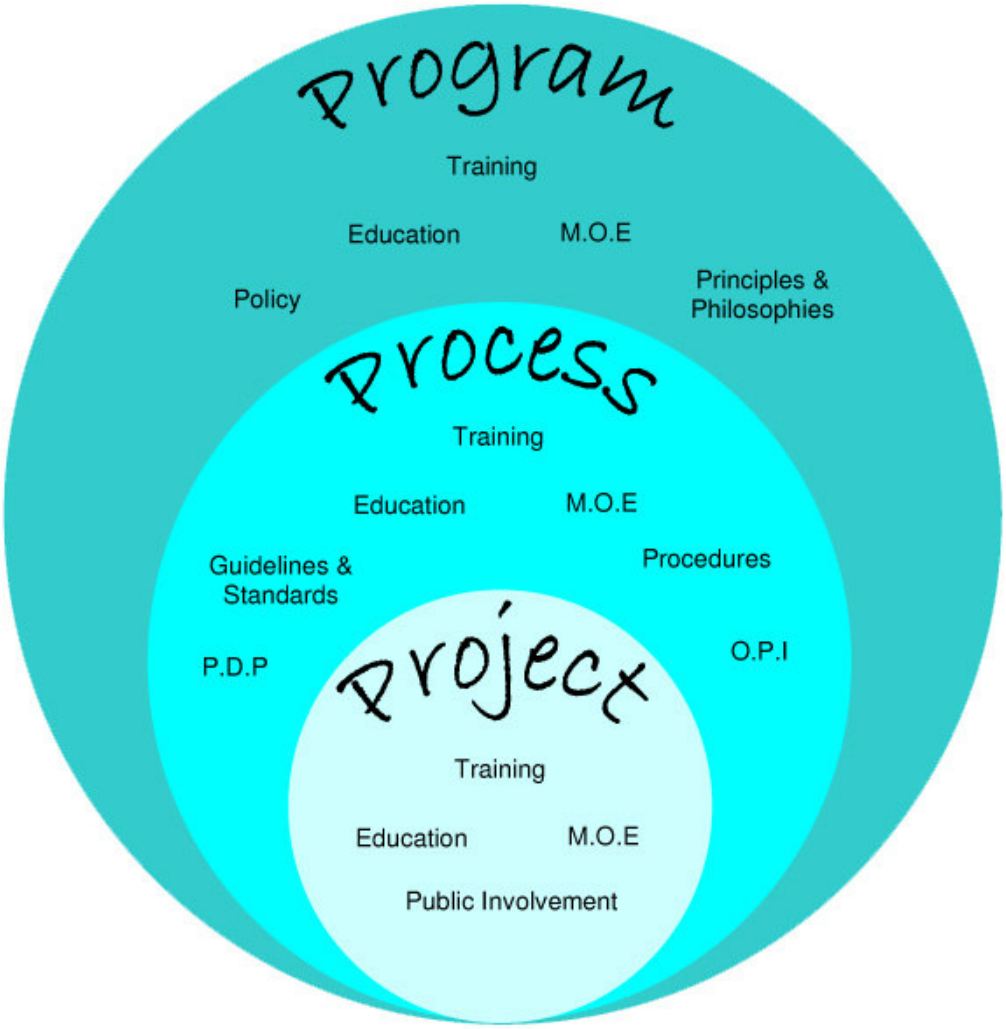
Chapter 2: Integration Framework Strategy

2.1 INDOT's CSS Integration Mission Statement

To enhance multi-modal transportation facilities by balancing cultural and natural preservation and community values with safety and mobility; creating an efficient transportation project delivery system.

2.2 Integration Framework

The following is a graphic depiction of the CSS Implementation Framework. Definitions follow on the next page.



2.3 Definitions

Full Integration - The final outcome of the Implementation Plan by means of successful completion of action items in the Program, the Process and the Projects. Full Integration is realized when CSS is no longer a component inserted into INDOT's Project Development Process (PDP) but rather inherently considered within INDOT's way of doing business.

Implementation Plan – A blueprint describing the overall strategy for putting the CSS Integration Framework into effect. The Implementation Plan outlines the program-level all the way through to the project-level objectives towards the goal of Full Integration.

Process - The application of the Program, in a series of progressive and interdependent steps by which CSS integration into INDOT's way of doing business is attained. Focusing on implementation, the Process integrates CSS into the Project Development Process (PDP), including the development of procedures and guidelines, systematic training and education plans.

Program – (the 'umbrella' of CSS integration activities) An overall plan of action to accomplish full integration of CSS principles into the INDOT way of doing business. As a macro-level of planning, the effectiveness of the program will be evaluated based on FHWA's CSS principals. (Reference to the term 'Program' within the CSS Integration Framework differs from INDOT's definition of 'program' which refers to the types of funding sources.)

Project - The specific planning, design, construction and maintenance of a transportation improvement. The project-level evaluation of the outcome of the transportation improvement will be based on the integration of INDOT's Mission Statement.

Test Cases - INDOT-identified transportation *projects* that will be used to evaluate and assess the validity and practicality of the CSS Program, Process, and Project implementation. (Six unique projects will be tested and include varied levels of magnitude, geographic context and scope.)

2.4 Primary Goals of the CSS Implementation Framework

The following four goals were developed to summarize the vision and guide the path of CSS integration within INDOT.

Goal 1: **Identify potential CSS principles and philosophies and select those that are appropriate for incorporation into INDOT's CSS Integration Framework.**

Goal 2: **Integrate CSS principles and philosophies into the INDOT planning, project development , construction, and maintenance processes.**

Goal 3: **Develop quantitative and qualitative assessment methodology to measure the effectiveness of CSS.**

Goal 4: **Develop appropriate training and tools for CSS implementation and education.**

2.5 Purpose of Primary Goals

The following purposes associated with the goals are intended to further explain the rationale and reasoning behind the goals.

Goal 1: Identify potential CSS principles and philosophies and select those that are appropriate for incorporation into INDOT's CSS Integration Framework.

The purpose of this goal is to identify which CSS characteristics best fit and augment INDOT's effectiveness as a transportation agency and steward for the major transportation projects in Indiana. Researching the success and shortcomings of how other DOTs have implemented CSS will improve INDOT's CSS Implementation Strategy.

Goal 2: Integrate CSS principles and philosophies into the INDOT planning, project development , construction, and maintenance processes.

The purpose of this goal is to incorporate the identified principles from Goal 1 into INDOT's planning, project development process, construction, and maintenance processes. This goal will be met when INDOT's customers will be served better by reducing project delays and associated costs while increasing flexibility in the design standards and manuals.

Goal 3: Develop quantitative and qualitative assessment methodology to measure the effectiveness of CSS.

The purpose of this goal is to establish scoring criteria to measure success of integration of CSS principles at the Program, Process and Project levels. The Test Cases will be used to evaluate the Measures of Effectiveness and identify refinements at the Program, Process, and Project levels.

Goal 4: Develop appropriate training and tools for CSS implementation and education.

The purpose of this goal is to implement extensive training for INDOT staff to fully recognize and embrace the benefits of CSS. In addition, education and overall awareness opportunities will be created for customers to understand and participate in CSS.

Chapter 3: Roles and Responsibilities

3.1 CSS Steering Committee

The role of the CSS Steering Committee is to guide and direct the consultant team through the implementation of the integration of the CSS framework. Using the Implementation Plan as a guide, the Steering Committee will guide and direct the on-going activities including Implementation Plan updates. They will work with the Policy Committee and the Technical Advisory Team seeking input throughout the duration of the project at appropriate junctures. The Steering Committee will be responsible for identifying the appropriate members of the Technical Team and will be seek necessary support and required approvals from the Policy Committee.

Steering Committee members include:

Andrew Fitzgerald	Manager, System Analysis & Planning	INDOT
Jeanette Wilson	Manager of Federal Aid Programs	INDOT
Richard Phillabaum	Environmental Permit Supervisor	INDOT
Clara McCarty	Assistant Manager, Local Federal Aid	INDOT
Robert Dirks	Project Manager/Team Leader	FHWA
Joyce Newland	Planning/Environmental Specialist	FHWA
Ed Ratulowski	Transportation Engineer, Project Development	FHWA
Gary Mroczka	Director Production Management	INDOT

3.2 Policy Committee

The Policy Committee will rely on the information and direction of the Steering Committee to inform them of CSS integration issues and progress. The Policy Committee will provide ultimate approvals on any policy related modifications necessary to support CSS as well as provide overall policy-level guidance to the Steering Committee. Support of from the Policy Committee of the CSS activities is critical to the overall success.

Karl Browning	Commissioner	INDOT
Bob Tally	Division Administrator	FHWA
John Weaver	Deputy Commissioner, Planning & Production	INDOT
Sallie Fahey	Executive Director	MPO
Mark Miller	Director, Construction Management	INDOT
Mike Cline	Deputy Commissioner, Traffic Management	INDOT
Jim Poturalski	Deputy Commissioner, Highway Management	INDOT

3.3 Technical Advisory Team

The Technical Advisory Team members are those who can provide insight to day-to day activities of a transportation project from concept to construction and on-going maintenance. They are responsible to ensure that CSS is properly integrated into the Design, PDP, Public Involvement, Aesthetics, LPA, and Environmental manual. The following is a list of potential members of the Technical Team. Typically, the number of members of a Team of this nature is best utilized if kept in the range of 15 members who are active participants.

Greg Kicinski	Project Management Manager	INDOT
Ray Irvin	Director of Greenways and Bikeways	INDOT
Mark Ahearn	Deputy Commissioner, Chief Legal Council	INDOT
Brad Steckler	Roadway Safety and Mobility Manager	INDOT
John Jordon	Local Programs Director	INDOT
Rickie Clark	Public Hearings Manager	INDOT
Eryn Fletcher	Urban & Corridor Planning Manager	INDOT
Michelle Hilary	Environmental Services Manager	INDOT
Ron Heustis	Construction	INDOT
Kevin McClure	Real Estate	INDOT
Jim Ude	District Planning Representative	INDOT
Shakeel Baig	District Production Representative	INDOT

Others for consideration:
Indiana Associations of Cities & Towns (IACT) Representative – have agency select representative
Association of Indiana Counties (AIC) Representative – have agency select representative
IDEM Representative- James Robb (Water Permitting)
IDNR Representative –John Davis MPO Representative - Jerry Bridges
Academia Representative (Purdue, LTAP, Ball State, IU) - Prof Sinha from Purdue; Scott Truex from Ball State
Construction Industry/Contractor representative – ICA
Economic Development – IEDC
FHWA Resource Center

3.4 Potential Community Stakeholders (varies by project)

Community stakeholders provide input on project-level implementation of CSS principals. Representatives from the Community Stakeholder group will be formed in response to and as part of the test case projects. A list of potential stakeholders to include is provided here and will be included as part of the project implementation tool kit.

Local/State DOT's
Elected Officials – Mayor, Council Members, etc
Municipal Staff – appointments (Street Commission, etc)
Economic Development Corps
Business Community Member
Economic Development Corporation Representatives
Public Transit Agencies
Chamber of Commerce Member
Neighborhood Association Spokesperson
Park & Recreation Associations
Army Corp. of Engineers
Historical Society Member
Logistics Representatives
Emergency Service Providers
Local Schools
ADA representation
Multi-modal Advocacy Groups and Associations

Chapter 4: Action Items

The following are the Action Items identified to address each of the four goals at the Program, Process, and Project levels.

4.1 Goal 1 Program, Project and Process Action Items

Goal 1: Identify potential CSS principles and philosophies and select those that are appropriate for incorporation into INDOT's CSS Integration Framework.

The purpose of this goal is to identify which CSS characteristics best fit and augment INDOT's effectiveness as a transportation agency and steward for the major transportation projects in Indiana. Researching the success and shortcomings of how other DOTs have implemented CSS will improve INDOT's CSS Implementation Strategy.

Program Level Action Items

- Prepare Implementation Plan.
- Prepare an Implementation Plan Schedule.
- Finalize a CSS Integration Framework Mission Statement.
- Identify existing national CSS principles.
- Develop an INDOT-specific approach for the incorporation of CSS principles to enhance INDOT's mission of creating a superior transportation system.

Process Level Action Items

- Review CSS processes from other DOTs to determine strengths and weaknesses of CSS Integration.
- Review INDOT's existing Design, PDP, Public Involvement, Aesthetics, LPA, and Environmental manuals to determine steps where CSS already exists.
- Review INDOT's existing evaluation methods and potential to incorporate the evaluation of CSS.

Project Level Action Items

- Review one INDOT CSS completed project and identify the strengths and weaknesses on how CSS was utilized.
- Review CSS projects from other states to identify the strengths and weaknesses for CSS integration. Find examples where project level CSS implementation was not appropriate.
- Establish CSS principles for use on varying project types.
- Gather background information for each Test Case (status reports, project information, percent complete, immediate issues).

4.2 Goal 2 Program, Project and Process Action Items

Goal 2: **Integrate CSS principles and philosophies into the INDOT planning, project development, construction, and maintenance processes.**

The purpose of this goal is to incorporate the identified principles from Goal 1 into INDOT's planning, Project Development Process (PDP), construction, and maintenance processes. This goal will be met when INDOT's customers will be served better by reducing project delays and associated costs while increasing flexibility in the design standards.

Program Level Action Items

- Determine peer group opportunities to learn from other DOT's successes and failures in integrating CSS.

Process Level Action Items

- Determine appropriate steps within the existing PDP to integrate CSS components, creating a CSS Integrated PDP.
- Define mechanisms for design flexibility utilizing the aesthetics design manual committee.
- Upon Test Case completion evaluate effectiveness of the CSS Integrated PDP.
- Create a Reference Guide identifying which steps in the CSS Integrated PDP achieve CSS principles.
- Create a CSS executive summary (CSS POC Manual).

Project Level Action Items

- For each Test Case, meet with the project design consultant and reviewers to gather background information, educate on the intent of CSS implementation, and identify goals and objectives for the Test Case with respect to CSS.
- Determine a CSS strategy for each Test Case, identifying optimal project stages to integrate CSS.
- Implement the CSS strategy for each Test Case.

4.3 Goal 3 Program, Project and Process Action Items

Goal 3: **Develop quantitative and qualitative assessment methodology to measure the effectiveness of CSS.**

The purpose of this goal is to establish scoring criteria to measure success of integration of CSS principles at the Pro-

Program Level Action Items

- Determine how the INDOT Process compares to FHWA's CSS evaluation mechanism. Establish a goal for INDOT to reach a 4 or 5 on FHWA's CSS evaluation.
- Discuss evaluation results with high-level policy personnel on an annual basis.
- Develop an OPI or POC to assess Program Level evaluation.
- Utilize the Test Cases to determine if the integration of CSS components meet FHWA's CSS intent, particularly with project delivery, forming/using interdisciplinary teams, gathering stakeholder input, and using stakeholder input.
- Utilize FHWA Standards to compare INDOT CSS progress to other DOT's CSS progress.

Process Level Action Items

- Determine a method of scoring CSS to be included in the calculation for alternative selection.
- Determine appropriate Measures of Effectiveness to determine if Process was successful (inclusive, effective, on time and on budget).
- Determine appropriate Measures Of Effectiveness to determine if Project Manager was successful in integrating CSS into the Process.
- Utilize the Test Cases to determine if CSS components are properly integrated within the Process. (Ideally, CSS should be part of the PDP from the very beginning of a Project's life. It is important to recognize Test Cases late in a Project's life will result in negative measurements with respect to the Process (likely relating to public perception, impact to budget, and schedule).

Project Level Action Items

- Determine appropriate Project OPI (Measures of Effectiveness) to determine if the Project Solution was effective in integrating CSS. (This measurement may be based on the success of balancing of Safety, Mobility, Economic Development, Preservation, and Community Values.)
- As test case are completed, evaluate each Test Case based on established Project OPI (Measures of Effectiveness).
- Create a Test Case Summary Report which compares results, trends, OPI (Measures of Effectiveness), and CSS integration conclusions.

4.4 Goal 4 Program, Project and Process Action Items

Goal 4: **Develop appropriate training and tools for CSS implementation and education.**

Program Level Action Items

- Create materials for stakeholder/customers to increase awareness of CSS principles, benefits of participation, and intent of CSS integration and implementation. (websites, presentations, multimedia, and printed collateral)
- Develop materials for an INDOT CSS website (including manuals, points of contacts, frequently asked questions, etc).
- (Need to add a continuity/ongoing training aspect as an action item)

Process Level Action Items

- Develop awareness training for INDOT staff and consultants to fully recognize and embrace the benefits of CSS.
- Develop comprehensive training for the Project Managers in technical implementation of the CSS Integrated PDP.
- Train specialized staff/consultants in technical implementations for the CSS Integrated PDP steps in which they are involved.
- Train internal INDOT employees responsible for the ongoing education and training about the CSS Integrated PDP.
- Establish within INDOT a system for continuous education of CSS best practices.
- Create a CSS POC committee to evaluate and implement the CSS Process.
- Identify an appropriate CSS champion.
- Identify long-term mechanism to ensure that CSS program carries through future years. (including manual updates, evaluation of national changes, continuous reviews, etc)

Project Level Action Items

- Develop materials to enable INDOT staff to facilitate Project-specific public input methods (i.e. facilitating charrettes, visual preference surveys, etc).

Appendix A: Definitions

CSS Integrated Project Development Process (PDP) - The modified PDP which includes CSS steps.

CSS Principles - Quality and characteristic goals for any CSS project. These quality and characteristic goals, as defined by FHWA, can also be used as evaluation criteria.

Full Integration - The final outcome of the Implementation Plan by means of successful completion of action items in the Program, the Process and the Projects. Full Integration is realized when CSS is no longer a component inserted into INDOT's Project Development Process (PDP) but rather inherently considered within INDOT's way of doing business.

Implementation Plan – A blueprint describing the overall strategy for putting the CSS Integration Framework into effect. The Implementation Plan outlines the program-level all the way through to the project-level objectives towards the goal of Full Integration.

Measures of Effectiveness (MOEs) - Quantitative and qualitative measures that will be used to assess the effectiveness of the integration of CSS into the Program, Process and Project level framework.

Organizational Performance Index (OPI) – to monitor progress in attaining established goals in each of the department's statewide district operations. Each OPI will measure one activity and together will have a direct bearing on the agency's ability to achieve it's overall performance goals.

Process - The application of the Program, in a series of progressive and interdependent steps by which CSS integration into INDOT's way of doing business is attained. Focusing on implementation, the Process integrates CSS into the Project Development Process (PDP), including the development of procedures and guidelines, systematic training and education plans.

Program – (the 'umbrella' of CSS integration activities) An overall plan of action to accomplish full integration of CSS principles into the INDOT way of doing business. As a macro-level of planning, the effectiveness of the program will be evaluated based on FHWA's CSS principals. (Reference to the term 'Program' within the CSS Integration Framework differs from INDOT's definition of 'program' which refers to the types of funding sources.)

Project - The specific planning, design, construction and maintenance of a transportation improvement. The project-level evaluation of the outcome of the transportation improvement will be based on the integration of INDOT's Mission Statement.

Project Development Process (PDP) - Steps required for completion of an INDOT project; this includes development, selection, design, and construction.

Project Solution - The end product resulting from a Project going through the CSS Integrated PDP.

Reference Guide - A stand alone document which identifies where CSS principles have been integrated into the CSS Integrated PDP .

Test Cases - INDOT-identified transportation *projects* that will be used to evaluate and assess the validity and practicality of the CSS Program, Process, and Project implementation. (Six unique projects will be tested and include varied levels of magnitude, geographic context and scope.)

Training – Training will include an overall awareness of the benefits of the application and integration of CSS. Overall training will include specific education of the application of the CSS Integration framework. (Training methods and resources may include development of CSS education and marketing materials, manuals, presentations, webinars, and development of CSS specific website.)

Appendix B : 2-Year Target Implementation Work Plan

The following Gantt chart represents the approach to accomplishing the goals, purposes and action items set out above. Tasks are laid out on a timeline over a two year period, ending in December 2008. To assist with the completion each of the action items listed, Steering, Policy and Technical Advisory Committee meetings will be planned and scheduled as tasks dictate. Critical approvals by INDOT are noted as milestones on the chart.